

**HPV Vaccination Uptake: a meta-analysis**  
**Dorji et al, 2021**

**Supplementary Table 1.** Characteristics of the studies included in the meta-analysis on human papillomavirus vaccine uptake in Low- and Middle-Income Countries, 2008–2020

	Author	Country	World Bank Income level	Study Design	Total	Female	Female pop adult or girl	Male	Male pop adult or boys	Age	Age at Vaccination (years)	Special population
										mean <sup>1</sup> (years)		
1	Al-Naggar et al	Malaysia	UMIC	Cross-sectional	233	233	Adult women	.	.	.	Range 17-40	.
2	Al-Naggar et al	Malaysia	UMIC	Cross-sectional	612	612	Girls	.	.	13.93	1.09	.
3	Arrossi et al	Argentina	UMIC	Cross-sectional	1312	1312	Girls, adult women	.	.	.	Range 8 - 49	18-49
4	Ayissi et al	Cameroon	LMIC	Cross-sectional	553	553	Girls, adult women	.	.	17.2	.	.
5	Azuogu et al	Nigeria	LMIC	Cross-sectional	290	290	Adult women	.	.	42	8	.
6	Banik et al	Bangladesh	LMIC	Cross-sectional	600	600	Adult women	.	.	36.8	2	.
7	Baussano et al	Bhutan	LMIC	Cross-sectional	1595	1595	Adult women	.	.	.	Range 17-29	< 15 y: 511, ≥15 y: 319
8	Chernyshov et al	Ukraine	LMIC	Cross-sectional	772	587	Adult women	185	Adult men	20.1	2.2	.
9	Danial et al	Malaysia	UMIC	Cross-sectional	337	337	Adult women	.	.	.	Range ≥18	.
10	Delany-Moretlwe et al	South Africa	UMIC	Cross-sectional	408273	408273	Girls	.	.	.	.	≥9 y
11	Deng et al	China	UMIC	Cross-sectional	1022	755	Adult women	267	Adult men	20.35	3.49	.
12	Dorji et al	Bhutan	LMIC	Cross-sectional	48674	48674	Girls	.	.	.	Range 12-18	Range 12-18
13	Ezeanochie et al	Nigeria	LMIC	Cross-sectional	215	215	Girls	.	.	14.3	2.69	16.5

14	Faisal-Cury et al	Brazil	UMIC	Cross-sectional	5404	5404	Girls	.	.	Range 13-17	.
15	Farias et al	Brazil	UMIC	Cross-sectional	797	797	Girls	.	13	0.8	.
16	Garon et al	Cambodia	LMIC	Cross-sectional	315	315	Girls	.	.	.	.
17	Ihudiebube-Splendor et al	Nigeria	LMIC	Cross-sectional	291	291	Adult women	.	22.6	4.2	.
18	Isabirye et al	Uganda	LIC	Cross-sectional	6093	6093	Girls	.	.	Range 10-14	.
19	Jalani et al	Malaysia	UMIC	Cross-sectional	128	128	Girls	.	.	Range 14-16	.
20	Kisaakye et al	Uganda	LIC	Cross-sectional	460	460	Girls	.	14	1.24	.
21	Kury et al	Brazil	UMIC	Cross-sectional	20661	20661	Girls	.	.	Range 11-15	.
		Bhutan	LMIC	Cross-sectional	3200	3200	Girls	.	.	Range 9 - 13	.
		Bolivia	LMIC	Cross-sectional	34380	34280	Girls	.	.	Range 9 -13	.
		Cambodia	LMIC	Cross-sectional	2000	2000	Girls	.	.	Range 11-18	.
22	Ladner et al	Cameroon	LMIC	Cross-sectional	1600	1600	Girls	.	.	Range 9-18	.
		Haïti	LIC	Cross-sectional	3300	3300	Girls	.	.	Range 9-13	.
		Lesotho	LMIC	Cross-sectional	40100	40100	Girls	.	.	Range 10-18	.
		Nepal	LMIC	Cross-sectional	3000	3000	Girls	.	.	Range 9-13	.
		Peru	UMIC	Cross-sectional	8092	8092	Girls	.	.	Fifth grade	.
		Uganda	LIC	Cross-sectional	10480	10480	Girls	.	.	Fifth grade (2835)	10
23	LaMontagne et al	Vietnam	LMIC	Cross-sectional	7014	7014	Girls	.	.	+ 10 y old (1923)	11
		India	LMIC	Cross-sectional	27169	27169	Girls	.	.	Sixth grade + 11 y Range 10-14	Range 10-14

24	Limaye et al	India	LMIC	Cross-sectional	73	73	Adult women	.	.	21	.	.	.
25	Liu et al	China	UMIC	Cross-sectional	589	589	Adult women	.	.	21.8	3.3	.	.
26	Mabeya et al	Kenya	LMIC	Cross-sectional	3026	3026	Girls	.	.	12 (M)	IQR 10-13	.	.
27	Mendes Lobao et al	Brazil	UMIC	Cross-sectional	291	291	Girls	.	.	.	Range 9-14	.	.
28	Monteiro et al	Brazil	UMIC	Cross-sectional	296	195	Adult women	101	Adult men	23.45	5.3	.	.
29	Msyamboza et al	Malawi	LIC	Cross-sectional	11240	11240	Girls	.	.	.	Range 8-14	.	.
30	Mugisha et al	Uganda	LIC	Cross-sectional	5722	5722	Girls	.	.	.	.	.	.
31	Muhamad et al	Malaysia	UMIC	Longitudinal study	1844062	1844062	Girls	.	.	12.5	Range 12-13	Range 12-13	.
32	Nabirye et al	Uganda	LIC	Cross-sectional	407	407	Girls	.	.	11.8	1.8	.	.
33	Ndikom et al	Nigeria	LMIC	Cross-sectional	296	296	Girls	.	.	.	Range 10-19	.	.
34	Oluwole et al	Nigeria	LMIC	Cross-sectional	384	384	Girls, adult women	.	.	21.3	2	.	.
35	Santos et al	Brazil	UMIC	Cross-sectional	666	666	Girls	.	.	12.4	1	.	.
36	Sayinzoga et al	Rwanda	LIC	Cross-sectional	1817642	1817642	Girls	.	.	12 (M)	.	12	.
37	Sibomana et al	Rwanda	LIC	Cross-sectional	1366	1366	Girls	.	.	.	Range 9-15	.	.
38	Strasse et al	Brazil	LMIC	Cross-sectional	239	152	Adult women	87	Adult men	46.4	12.7	.	Inflammatory bowel disease
39	Swarnapriya et al	India	LMIC	Cross-sectional	957	685	Adult women	272	Adult men	19.25	1.64	.	.
40	Tran et al	Vietnam	LMIC	Cross-sectional	346	271	Adult women	75	Adult men	26.8	6.2	.	.
41	Vermandere et al	Kenya	LMIC	Longitudinal study	254	254	Girls	.	.	12 (M)	IQR 11-14	Range 9-14	.
42	Wanderley et al	Brazil	UMIC	Cross-sectional	379	161	Adult women	218	Adult men	21.8	3.1	.	.
43	Wanyenze et al	Uganda	LIC	Cross-sectional	5153	5153	Girls, adult women	.	.	.	Range 15-49	.	PLHIV

44	Widjaja et al	Malaysia	UMIC	Cross-sectional	425	235	Adult women	190	Adult men	.	.	.
45	Williams et al	Ghana	LMIC	Cross-sectional	288	288	Adult women	.	.	32.4	10	.
46	You et al	China	UMIC	Cross-sectional	4220	4220	Girls, adult women	.	.	.	Range 16-23	.
47	Zaheer et al	Pakistan	LMIC	Cross-sectional	1038	1038	Girls, adult women	.	.	20.62	1.54	.

<sup>1</sup>Age presented in mean unless otherwise specified; median if specified M

<sup>2</sup>Standard deviation unless specified; age range specified or IQR interquartile range specified

LIC = low-income country; LMIC = lower-middle income country; UMIC = upper-middle income country; PLHIV = people living with HIV;

**Supplementary Table 2.** Population and human papillomavirus vaccine uptake in Low- and Middle-Income Countries, 2008–2020

Author	Country	Total population	Any dose uptake overall	Any dose uptake		First dose uptake		Second dose uptake		3 dose uptake		2 – 3 doses uptake		Special population n (%)
				Female n (%)	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n (%)	Female n (%)	Male n (%)	
1	Al-Naggar et al	Malaysia	233	120 (51.5)	120 (51.5)	-	-	-	-	-	-	-	-	-
2	Al-Naggar et al	Malaysia	612	477 (77.9)	477 (77.9)	-	-	-	-	-	-	-	-	-
3	Arrossi et al	Argentina	1312	6 (0.5)	6 (0.5)	-	-	-	-	-	-	-	-	-
4	Ayissi et al	Cameroon	553	189 (34.2)	189 (34.2)	-	101 (18.3)	-	-	189 (34.2)	-	-	-	-
5	Azuogu et al	Nigeria	290	7 (2.4)	7 (2.4)	-	-	-	-	-	-	-	-	-
6	Banik et al	Bangladesh	600	32 (5.3)	32 (5.3)	-	-	-	-	-	-	-	-	-
7	Baussano et al	Bhutan	1595	1053 (66.0)	1053 (66.0)	-	179 (11.2)	-	-	-	849 (53.2)	-	-	-
8	Chernyshov et al	Ukraine	772	43 (5.6)	34 (5.8)	9 (4.9)	-	-	-	-	-	-	-	-
9	Danial et al	Malaysia	337	29 (8.6)	29 (8.6)	-	-	-	-	-	-	-	-	-
10	Delany-Moretwe et al	South Africa	408273	353564 (86.6)	353564 (86.6)	-	-	-	-	-	-	-	-	-
11	Deng et al	China	1022	32 (3.1)	27 (3.6)	5 (1.9)	-	-	-	-	-	-	-	-
12	Dorji et al	Bhutan	48674	44849 (92.1)	44849 (92.1)	-	44849 (92.1)	-	43695 (89.8)	-	43863 (90.1)	-	43863 (90.1)	-
13	Ezeanochie et al	Nigeria	215	1 (0.5)	1 (0.5)	-	-	-	-	-	-	-	-	-
14	Faisal-Cury et al	Brazil	5404	2643 (48.9)	2643 (48.9)	-	-	-	-	-	-	-	-	-
15	Farias et al	Brazil	797	758 (95.1)	758 (95.1)	-	-	659 (82.7)	-	-	659 (82.7)	-	-	-
16	Garon et al	Cambodia	315	271 (86.0)	271 (86.0)	-	11 (3.5)	-	260 (82.5)	-	-	260 (82.5)	-	-
17	Ihudiebube-Splendor et al	Nigeria	291	38 (13.1)	38 (13.1)	-	12 (4.1)	-	5 (1.7)	-	21 (7.2)	-	21 (7.2)	-
18	Isabirye et al	Uganda	6093	1340 (22.0)	1340 (22.0)	-	-	-	-	-	-	-	-	-
19	Jalani et al	Malaysia	128	123 (96.1)	123 (96.1)	-	123 (96.1)	-	121 (94.5)	-	115 (89.8)	-	121 (94.5)	-
20	Kisaakye et al	Uganda	460	232 (50.4)	232 (50.4)	-	83 (18.0)	-	68 (14.8)	-	81 (17.6)	-	81 (17.6)	-
21	Kury et al	Brazil	20661	18171 (87.9)	18171 (87.9)	-	18171 (87.9)	-	-	-	13691 (66.3)	-	13691 (66.3)	-
		Bhutan	3200	3082 (96.3)	3082 (96.3)	-	3082 (96.3)	-	2980 (93.1)	-	2721 (85.0)	-	2980 (93.1)	-
		Bolivia	34380	32578 (94.8)	32578 (95.0)	-	32578 (95.0)	-	32031 (93.2)	-	31336 (91.1)	-	32031 (93.2)	-
		Cambodia	2000	2127 (106.4)	2127 (106.4)	-	2127 (106.4)	-	2090 (104.5)	-	2027 (101.4)	-	2090 (104.5)	-
22	Ladner et al	Cameroon	1600	1240 (77.5)	1240 (77.5)	-	1240 (77.5)	-	1159 (72.4)	-	1033 (64.6)	-	1159 (72.4)	-
		Haiti	3300	3805 (115.3)	3805 (115.3)	-	3805 (115.3)	-	3304 (100.1)	-	2884 (87.4)	-	3304 (100.1)	-
		Lesotho	40100	36208 (90.3)	36208 (90.3)	-	36208 (90.3)	-	34333 (85.6)	-	33818 (84.3)	-	34333 (85.6)	-
		Nepal	3000	3206 (106.9)	3206 (106.9)	-	3206 (106.9)	-	3199 (106.6)	-	3164 (105.5)	-	3199 (106.6)	-
23	LaMontagne et al	Peru	8092	6684 (82.6)	6684 (82.6)	-	-	-	-	-	6684 (82.6)	-	-	-
		Uganda	10480	8008 (76.4)	8008 (76.4)	-	-	-	-	-	8008 (76.4)	-	-	-
		Vietnam	7014	6421 (91.5)	6421 (91.5)	-	-	-	-	-	6421 (91.5)	-	-	-
		India	27169	21590 (79.5)	21590 (79.5)	-	-	-	-	-	21590 (79.5)	-	-	-
24	Limaye et al	India	73	73	4 (5.5)	-	-	-	-	-	-	-	-	-
25	Liu et al	China	589	51 (8.7)	51 (8.7)	-	51 (8.7)	-	-	-	-	-	-	-
26	Mabeya et al	Kenya	3026	1933 (63.9)	1933 (63.9)	-	-	-	1933 (63.9)	-	39.1 (1933)	-	-	-
27	Mendes Lobao et al	Brazil	291	207 (71.1)	207 (71.1)	-	-	-	170 (58.4)	-	170 (58.4)	-	-	-
28	Monteiro et al	Brazil	296	47 (15.9)	42 (21.5)	5 (5.0)	42 (21.5)	5 (5.0)	-	-	-	-	-	-
29	Msyamboza et al	Malawi	11240	10634 (94.6)	10634 (94.6)	-	-	-	-	-	-	10070 (89.6)	-	-
30	Mugisha et al	Uganda	5722	6724 (117.5)	6724 (117.5)	-	-	-	-	-	5426 (94.8)	-	5426 (94.8)	-
31	Muhamad et al	Malaysia	1844062	1597241 (86.6)	1597241 (86.6)	-	1597241 (86.6)	-	433146 (23.5)	-	1150736 (62.4)	-	1150736 (62.4)	-
32	Nabirye et al	Uganda	407	200 (49.1)	200 (49.1)	-	144 (35.4)	-	56 (13.8)	-	-	-	-	-
33	Ndikom et al	Nigeria	206	12 (4.1)	12 (4.1)	-	-	-	-	-	-	-	-	-

34	Oluwole et al	Nigeria	384	10 (2.6)	10 (2.6)	-	-	6 (1.6)	-	-	-	-	-	-
35	Santos et al	Brazil	666	644 (96.7)	644 (96.7)	-	208 (31.2)	-	436 (65.5)	-	-	-	-	-
36	Sayinzoga et al	Rwanda	1817642	115686 (63.6)	115686 (63.6)	-	115686 (63.6)	-	-	-	-	-	-	-
37	Sibomana et al	Rwanda	1366	1243 (91.0)	1243 (91.0)	-	-	-	-	-	-	-	-	-
38	Strasse et al	Brazil	239	8 (3.3)	-	-	-	-	-	-	-	-	-	IBD
39	Swarnapriya et al	India	957	65 (6.8)	65 (6.8)	-	-	-	-	-	-	-	-	-
40	Tran et al	Vietnam	346	110 (31.8)	102 (37.6)	8 (10.7)	-	-	-	-	-	-	-	-
41	Vermandere et al	Kenya	254	79 (31.1)	79 (31.1)	-	79 (31.1)	-	71 (28.0)	-	56 (22.0)	-	71 (28.0)	-
42	Wanderley et al	Brazil	379	80 (21.1)	60 (37.3)	20 (9.2)	-	-	-	-	-	-	-	-
43	Wanyenze et al	Uganda	5153	95 (1.8)	95 (1.8)	-	-	-	-	-	-	-	-	HIV
44	Widjaja et al	Malaysia	425	121 (28.5)	104 (44.3)	17 (8.9)	-	-	-	-	-	-	-	-
45	Williams et al	Ghana	288	5 (1.7)	5 (1.7)	-	-	-	-	-	-	-	-	-
46	You et al	China	4220	463 (11.0)	463 (11.0)	-	-	-	-	-	-	-	-	-
47	Zaheer et al	Pakistan	1038	13 (1.3)	13 (1.3)	-	-	-	-	-	-	-	-	-
<b>Total</b>			<b>4338331</b>	<b>3325779 (76.7)</b>	<b>3325707 (76.7)</b>	<b>64 (4.6)</b>	<b>2910986</b>	<b>5 (5.0)</b>	<b>559722 (67.1)</b>	<b>-</b>	<b>1335046 (30.8) (12.9)</b>	<b>-</b>	<b>1349010 (31.1)</b>	<b>-</b>

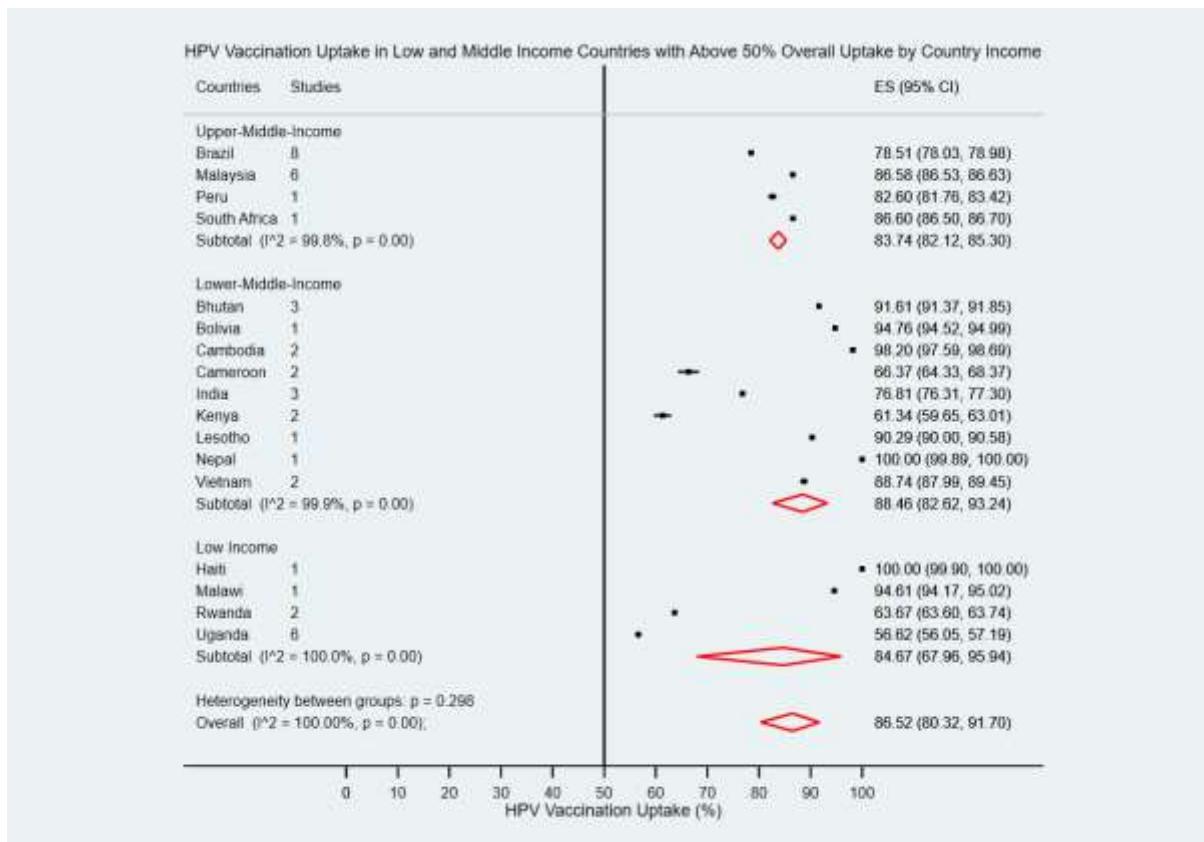
IBD = inflammatory bowel disease; HIV = people living with HIV

**Supplementary Table 3.** Risk of bias assessment in prevalence studies using Hoy's eleven-item checklist (16) for the studies included in the meta-analysis on human papillomavirus vaccine uptake in Low- and Middle-Income Countries, 2008–2020

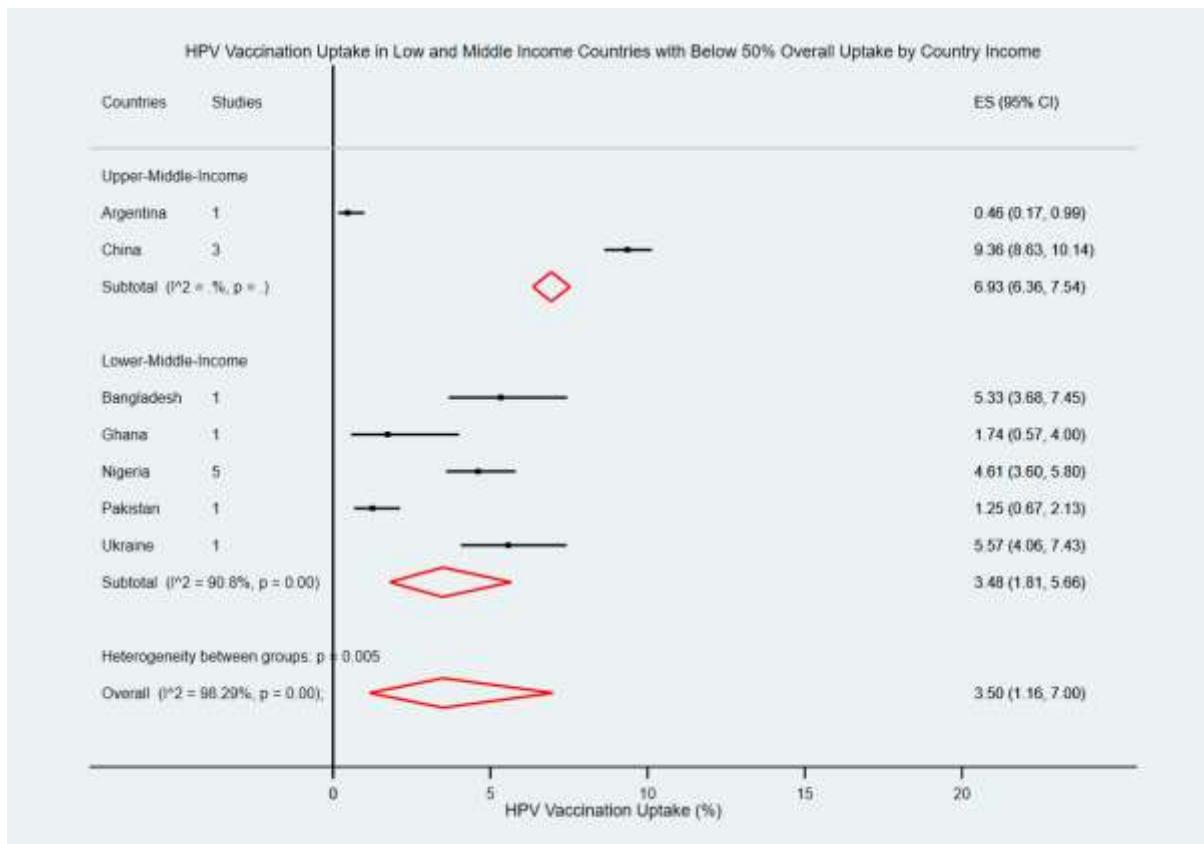
Author	Year of publication	Sample Representativeness	Sampling frame	Sampling Techniques	Non-response bias	Data Collection Method	Case Definition	Measurement Tools	Mode of Measurement	Study Period	Data Calculation	Overall
Al-Naggar et al	2011	High	High	High	High	Low	High	High	Low	High	Low	Moderate
Al-Naggar et al	2012	High	Low	Low	Low	Low	High	High	Low	High	Low	Low
Arrossi et al	2012	High	Low	Low	Low	Low	High	High	Low	High	Low	Low
Ayissi et al	2012	High	Low	High	Low	Low	Low	High	Low	Low	Low	Moderate
Azuogu et al	2019	High	Low	Low	Low	Low	High	High	Low	High	Low	Moderate
Banik et al	2020	High	Low	Low	Low	Low	Low	High	Low	High	Low	Moderate
Baussano et al	2020	High	High	High	Low	Low	High	High	Low	Low	Low	Moderate
Chernyshov et al	2020	High	High	High	High	Low	High	High	Low	High	Low	Moderate
Danial et al	2016	High	High	High	High	Low	High	Low	Low	High	Low	High
Delany-Moretwe et al	2018	Low	High	High	Low	High	High	High	Low	Low	Low	Moderate
Deng et al	2020	High	High	High	High	Low	High	Low	Low	High	Low	Moderate
Dorji et al	2015	Low	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Ezeanochie et al	2020	HIGH	Low	Low	Low	Low	Low	High	Low	High	Low	Moderate
Faisal-Cury et al	2020	Low	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Farias et al	2016	High	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Garon et al	2019	High	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Ihudiebube-Splendor et al	2019	High	Low	High	Low	Low	Low	Low	Low	High	Low	Moderate
Isabirye et al	2020	Low	Low	Low	Low	Low	Low	High	Low	High	Low	Moderate
Jalani et al	2016	High	Low	Low	Low	Low	Low	Low	Low	High	Low	Moderate
Kisaakye et al	2018	High	High	High	Low	High	Low	High	High	High	Low	Moderate
Kury et al	2013	High	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Ladner et al	2012	High	High	High	High	High	Low	High	Low	Low	Low	Moderate

LaMontagne et al	2011	High	High	High	High	High	Low	High	Low	Low	Low	Moderate
Limaye et al	2017	High	High	High	High	Low	Low	High	Low	High	Low	High
Liu et al	2020	High	High	High	High	Low	Low	High	Low	High	Low	High
Mabeya et al	2018	High	High	High	High	Low	Low	Low	Low	High	Low	High
Mendes Lobao et al	2018	Low	High	Low	Moderate							
Monteiro et al	2018	High	Low	High	Low	Low	High	High	Low	High	Low	Moderate
Msyamboza et al	2017	High	Low	Low	Low	High	High	High	High	High	Low	Moderate
Mugisha et al	2015	High	High	High	High	High	Low	High	High	Low	Low	HIGH
Muhamad et al	2018	Low	Low	Low	Low	High	Low	High	Low	Low	Low	Low
Nabirye et al	2020	High	Low	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Ndikom et al	2017	High	Low	Low	Low	Low	High	High	Low	High	Low	Moderate
Oluwole et al	2019	High	Low	Low	Low	Low	High	High	Low	High	Low	Moderate
Santos et al	2020	High	Low	High	Low	Low	Low	High	Low	High	Low	Moderate
Sayinzoga et al	2020	Low	Low	Low	Low	High	Low	High	High	Low	Low	Moderate
Sibomana et al	2018	Low	Low	Low	Low	Low	High	High	Low	Low	Low	Moderate
Strasse et al	2019	High	Low	High	Low	Low	Low	High	Low	High	Low	Moderate
Swarnapriya et al	2015	High	Low	Low	Low	Low	High	Low	Low	High	Low	Moderate
Tran et al	2018	High	Low	High	Low	Low	High	High	Low	High	Low	Moderate
Vermandere et al	2014	High	High	Low	Low	Low	Low	High	Low	Low	Low	Moderate
Wanderley et al	2019	High	Low	High	Low	Low	High	High	Low	High	Low	Moderate
Wayenze et al	2017	Low	Low	Low	Low	Low	Low	High	Low	High	Low	Moderate
Widjaja et al	2019	High	High	High	Low	Low	High	Low	High	High	Low	Moderate
Williams et al	2018	High	High	High	Low	Low	High	High	Low	High	Low	Moderate
You et al	2020	High	Low	High	High	Low	High	Low	Low	High	Low	Moderate
Zaheer et al	2017	High	Low	High	Low	Low	Low	High	Low	High	Low	Moderate

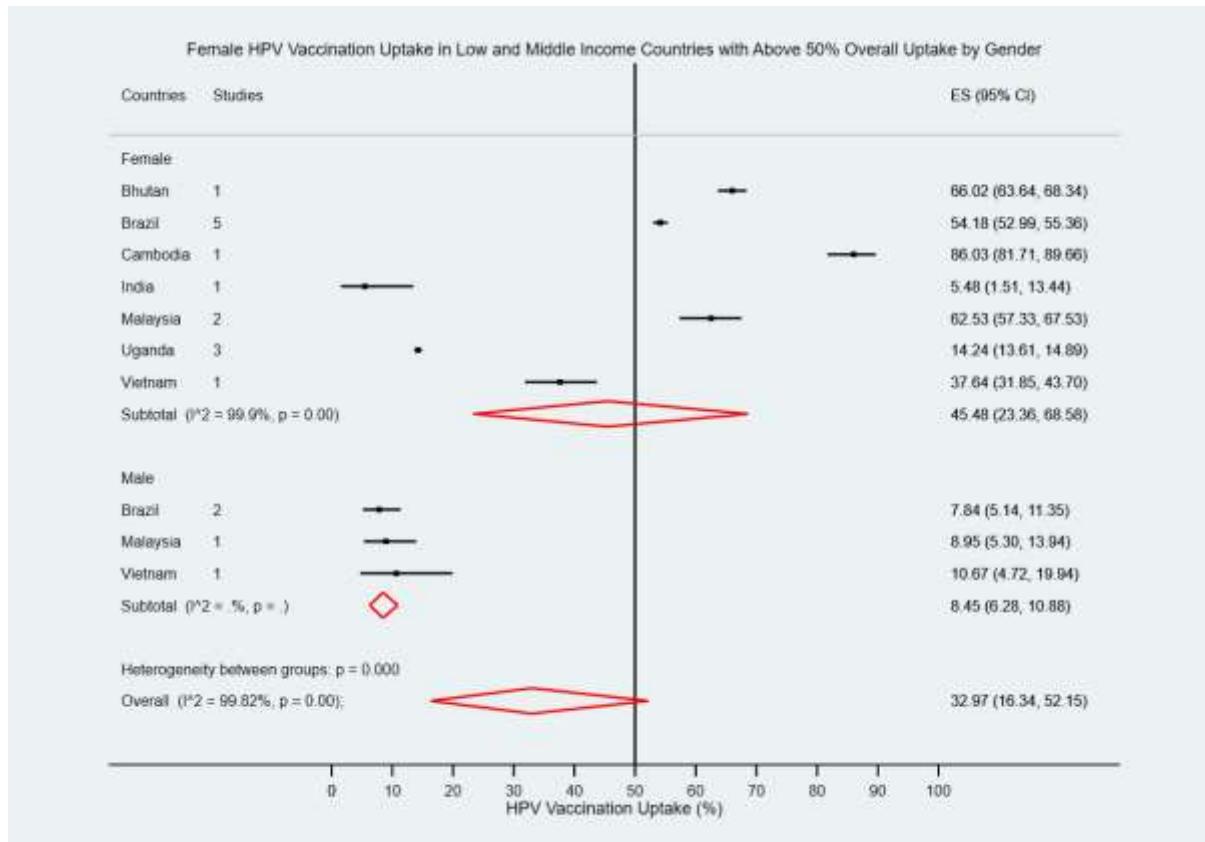
**Supplementary Figure 1.** HPV vaccination uptake by level of income in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020



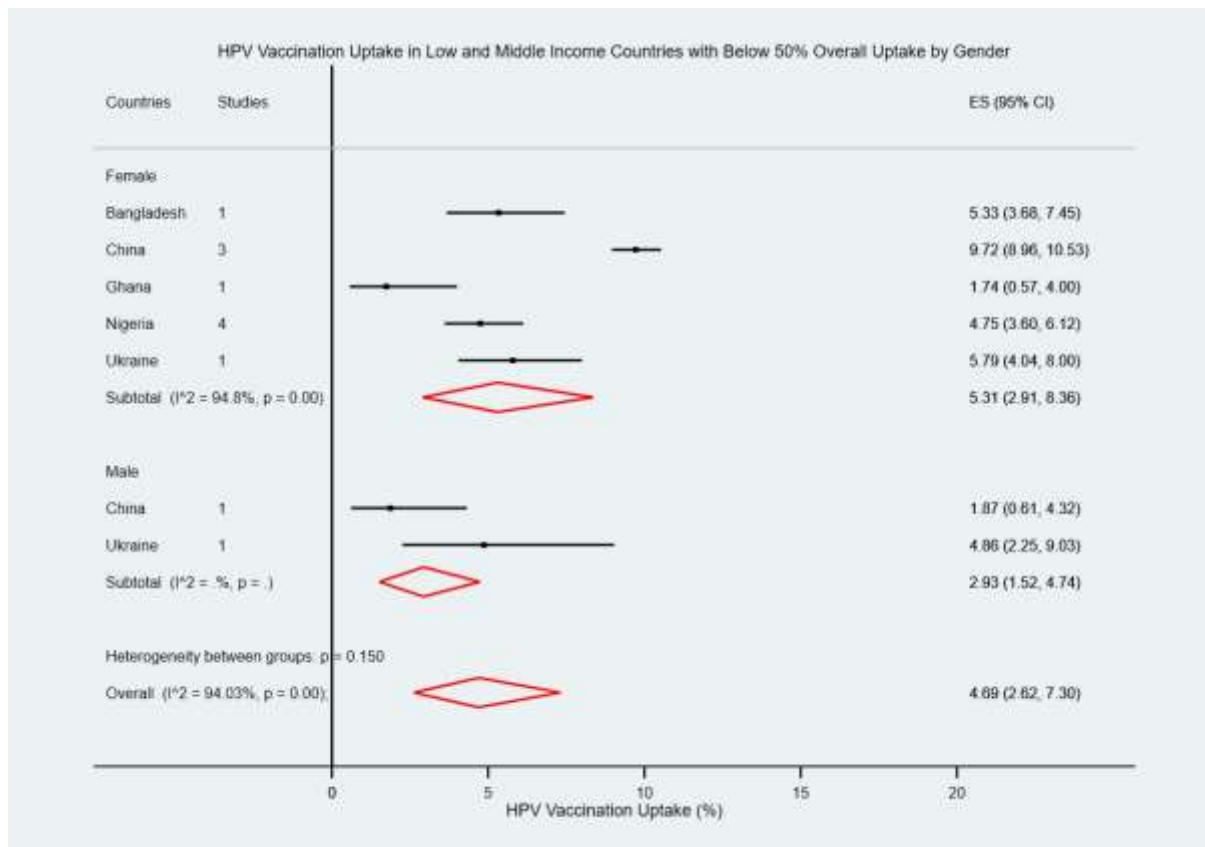
**Supplementary Figure 2.** HPV vaccination uptake by level of income in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020



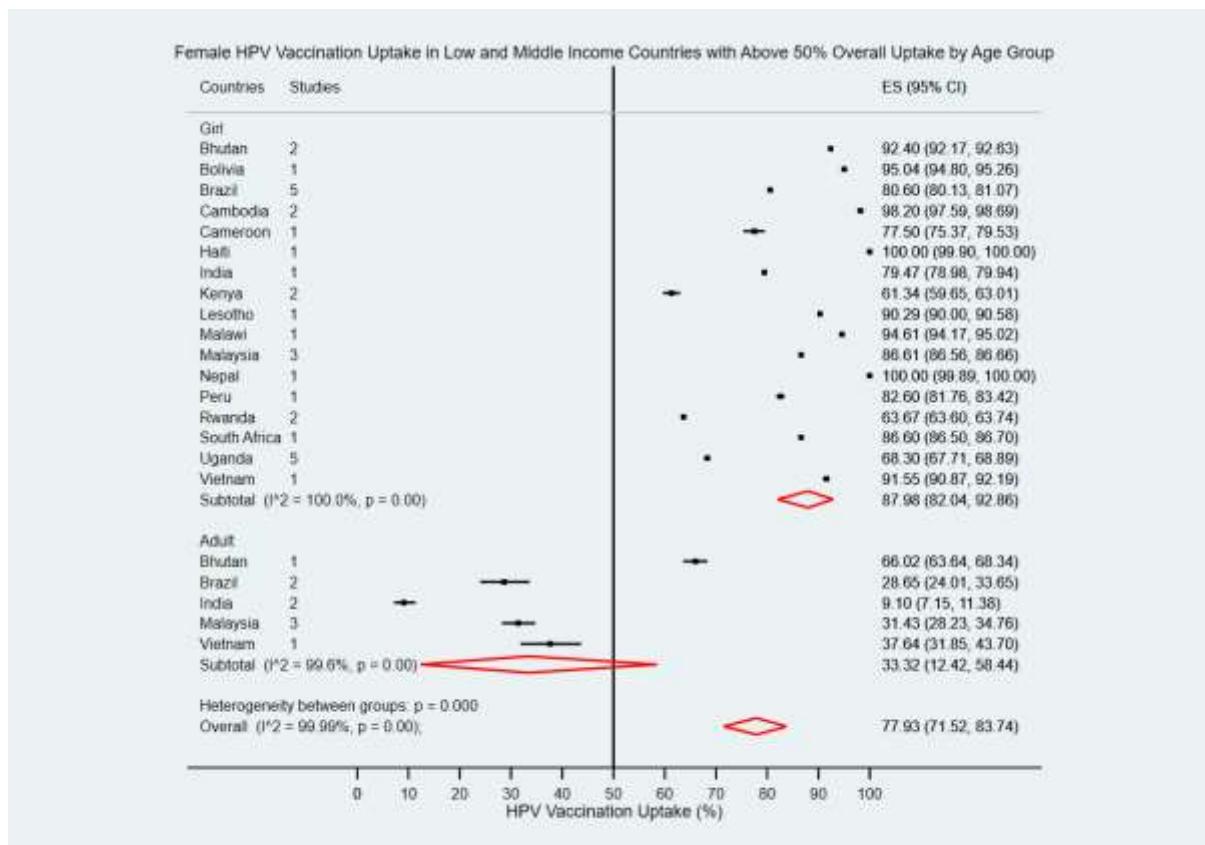
**Supplementary Figure 3.** HPV vaccination uptake by gender in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020 for female population, 2015–2020 for male population



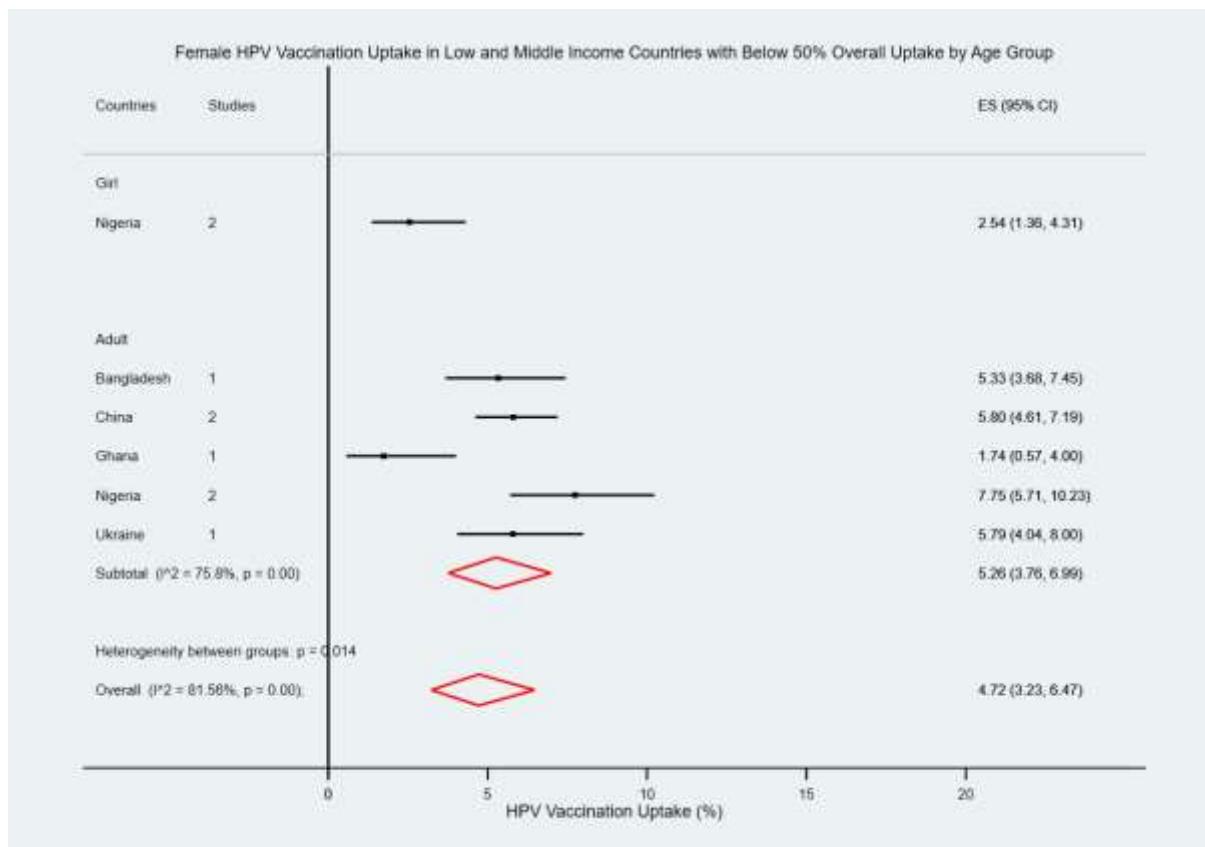
**Supplementary Figure 4.** HPV vaccination uptake by gender in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020 for female population, 2015–2020 for male population



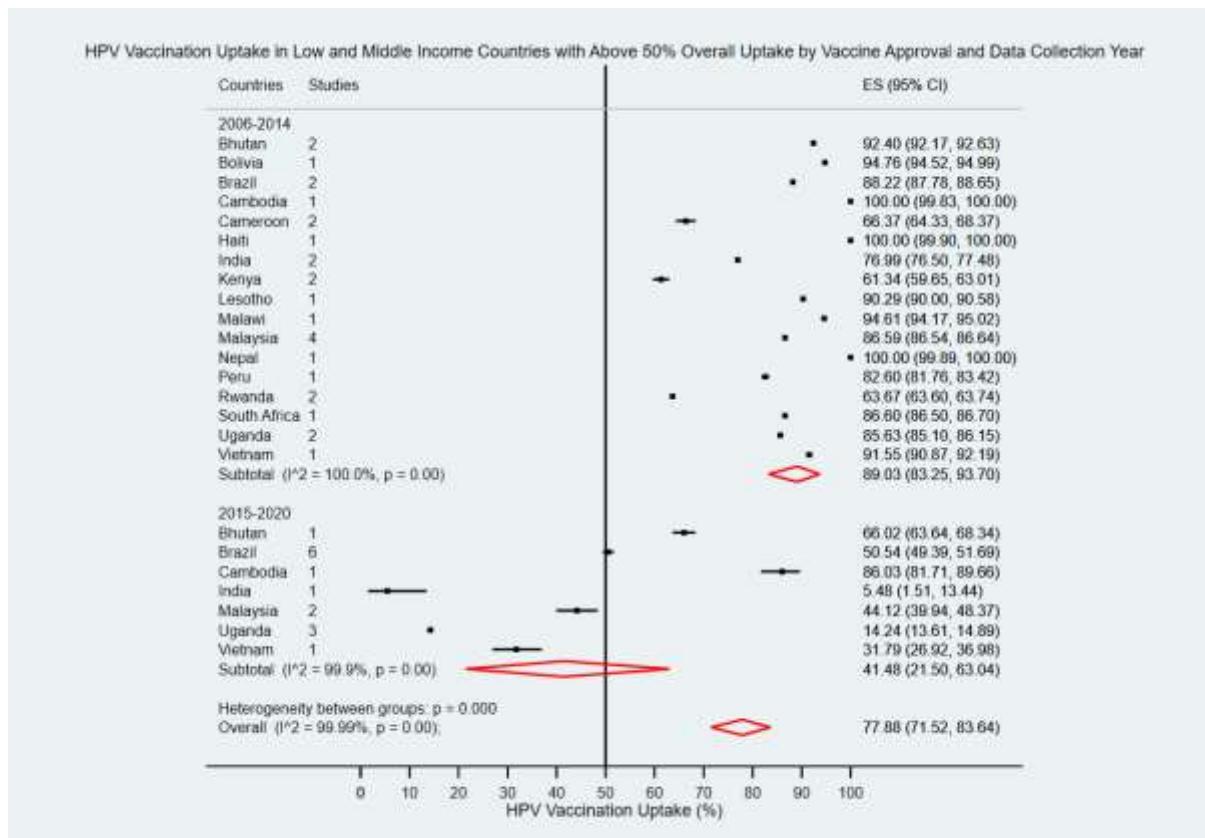
**Supplementary Figure 6.** HPV vaccination uptake in female population by age (girls or adult women) in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020



**Supplementary Figure 6.** HPV vaccination uptake in female population by age (girls or adult women) in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020

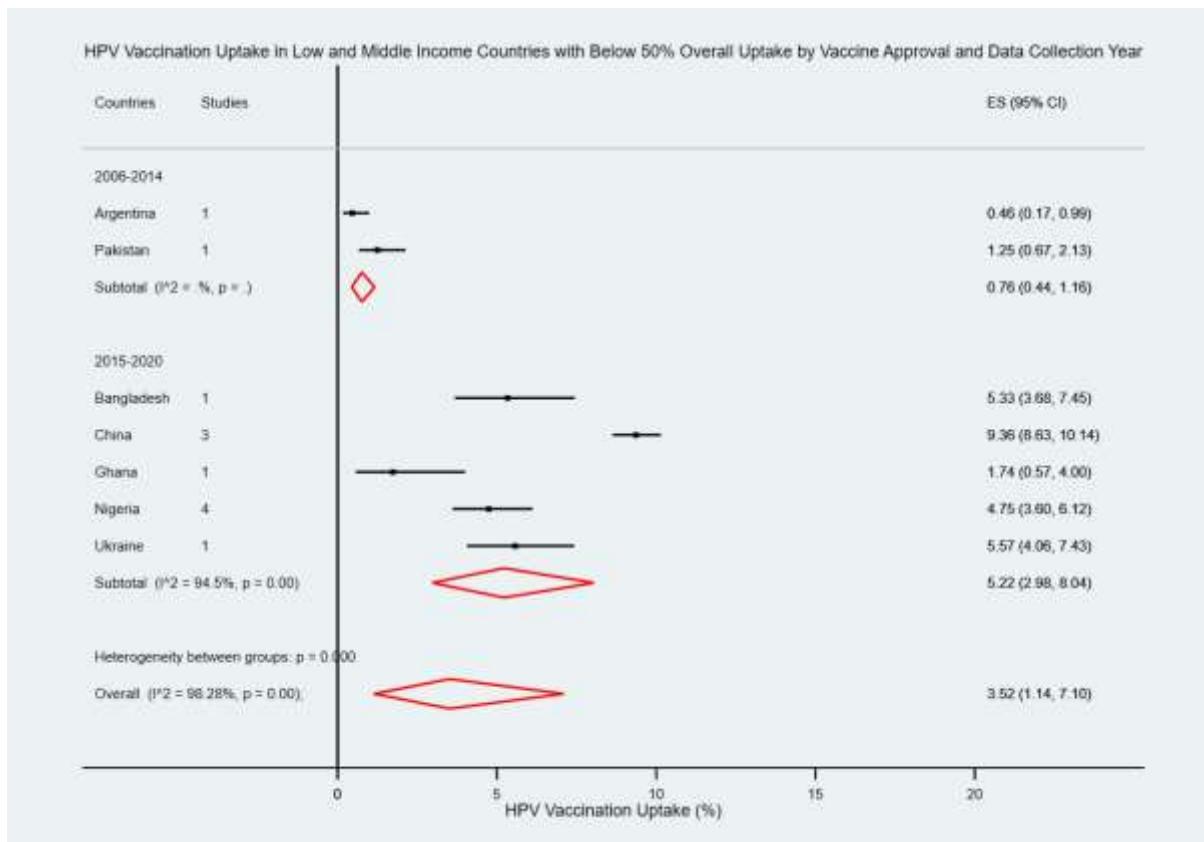


**Supplementary Figure 7.** HPV vaccination uptake by the year of data collection in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020\*



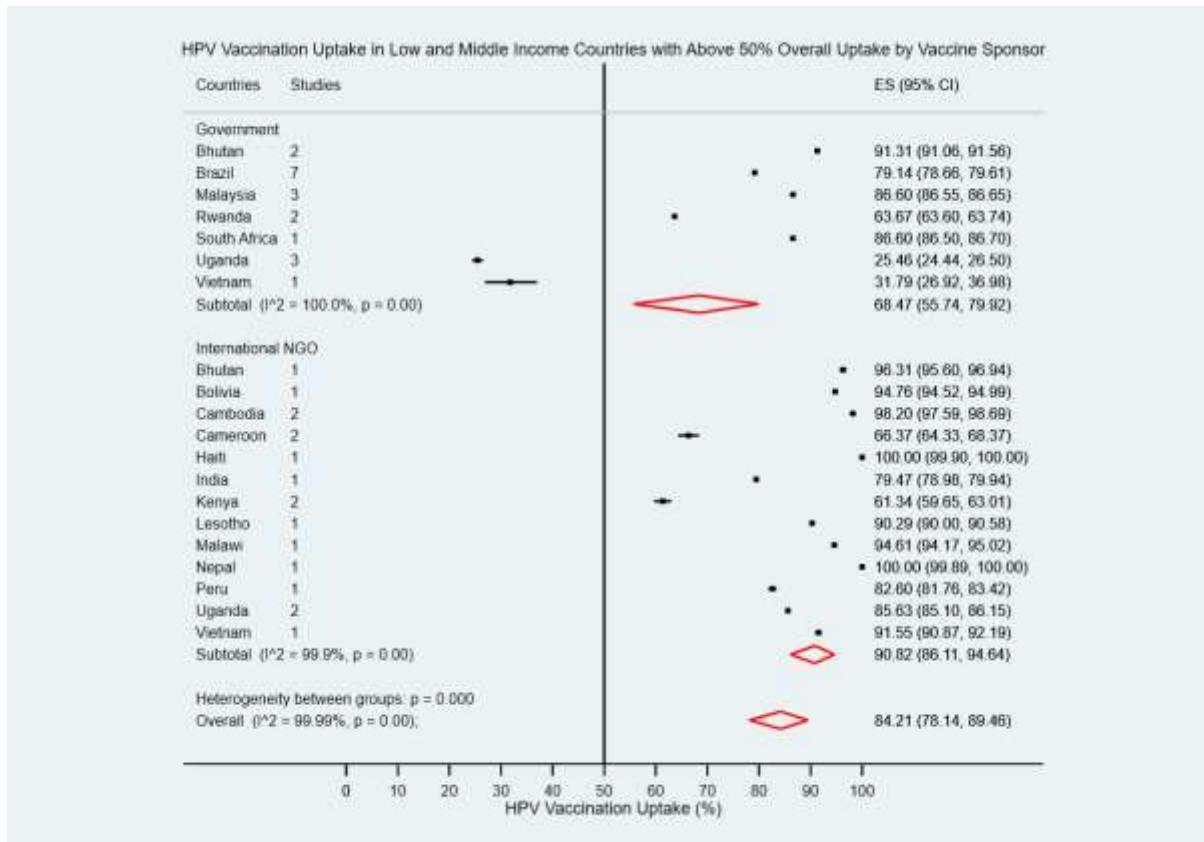
\*Gender-neutral vaccination policy adopted after 2014

**Supplementary Figure 8.** HPV vaccination uptake by the year of data collection in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020\*

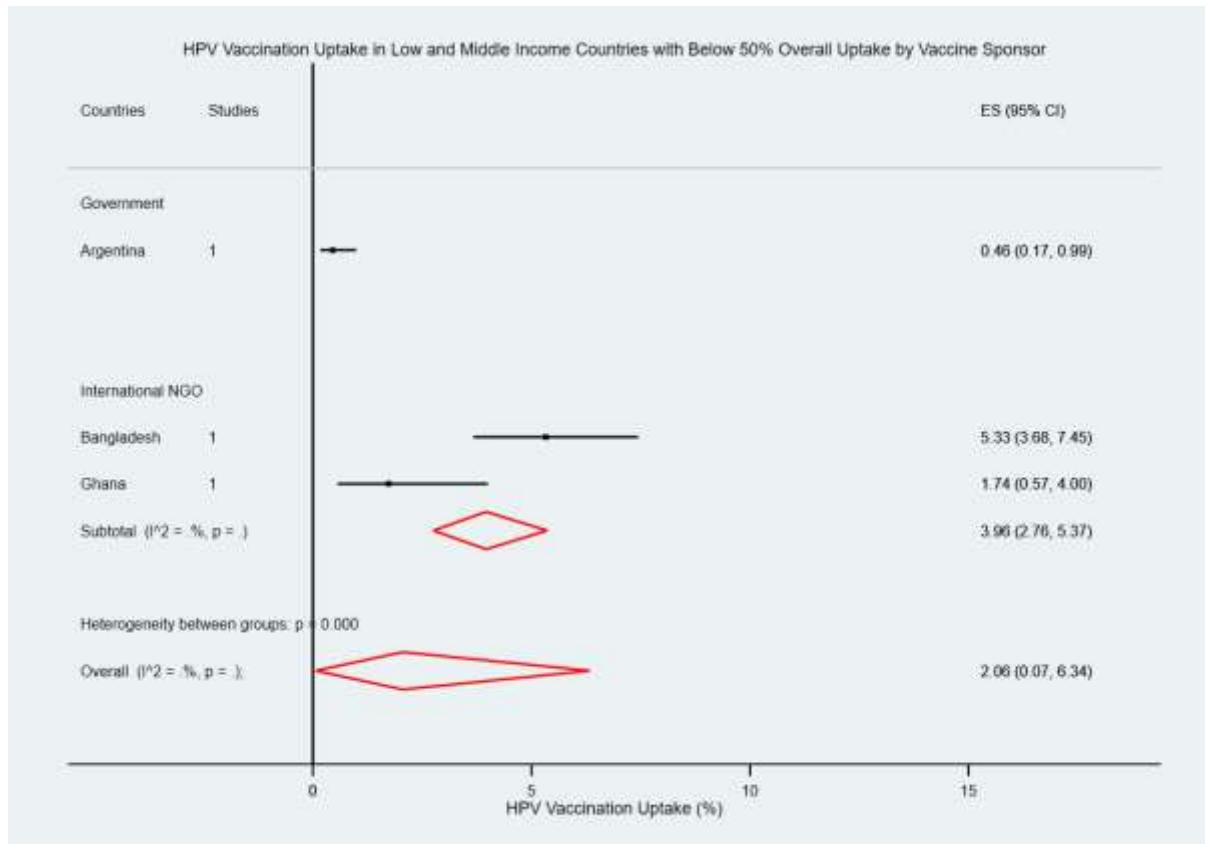


\*Gender-neutral vaccination policy adopted after 2014

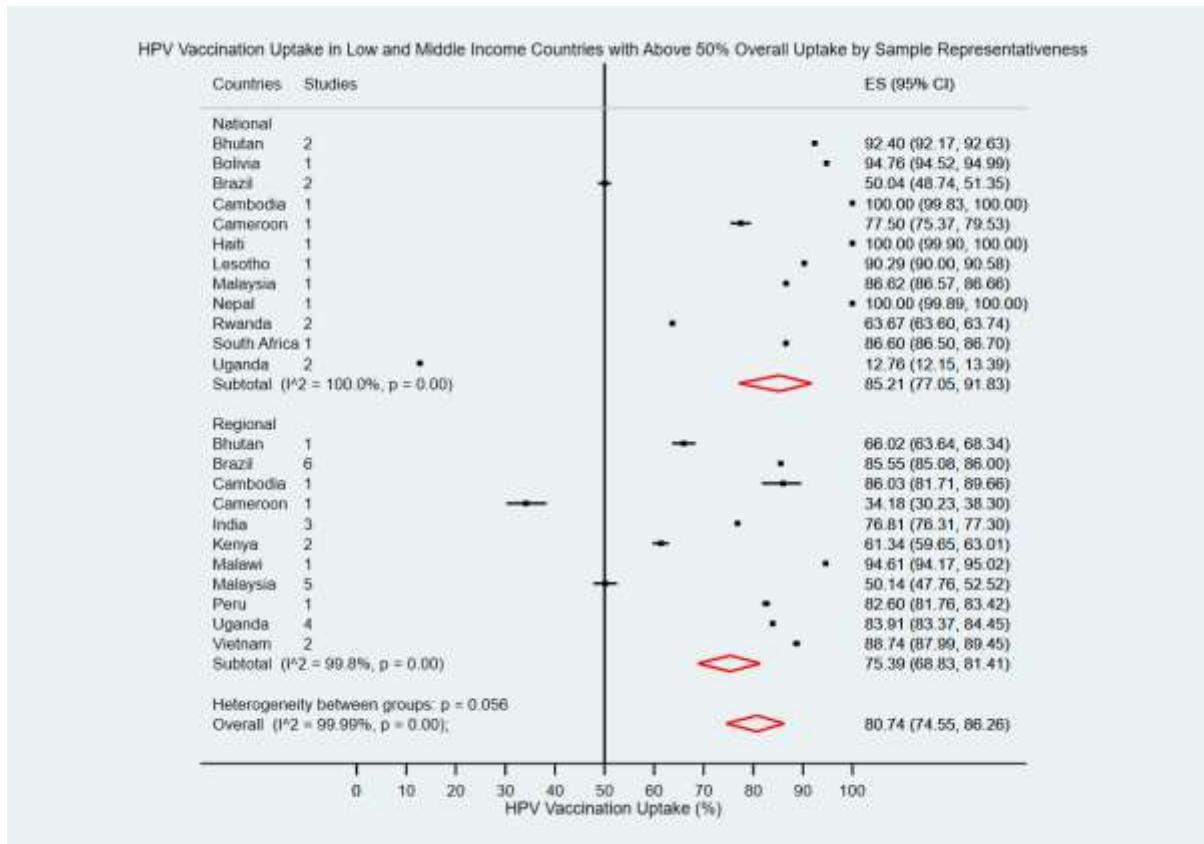
**Supplementary Figure 9.** HPV vaccination uptake by the type of sponsor (government vs international non-governmental organizations) in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020



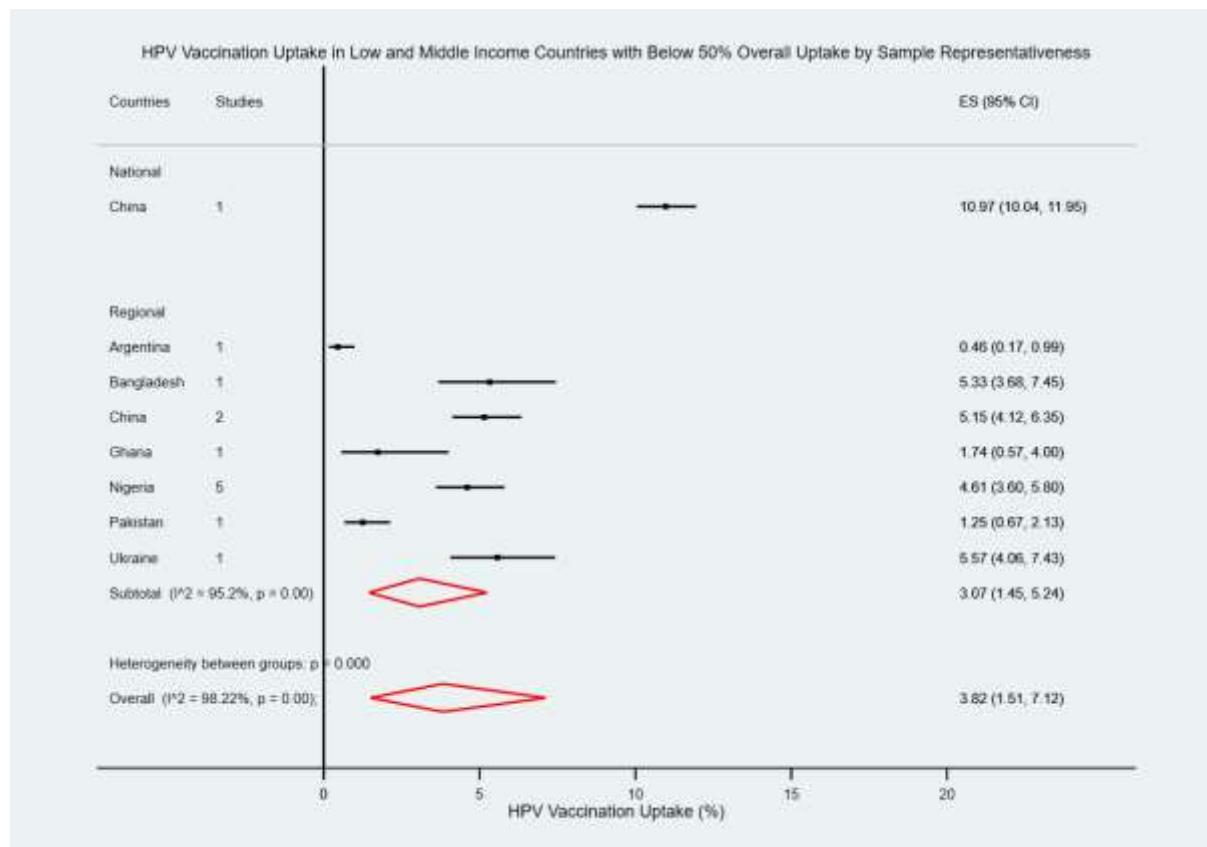
**Supplementary Figure 10.** HPV vaccination uptake by the type of sponsor (government vs international non-governmental organizations) in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020



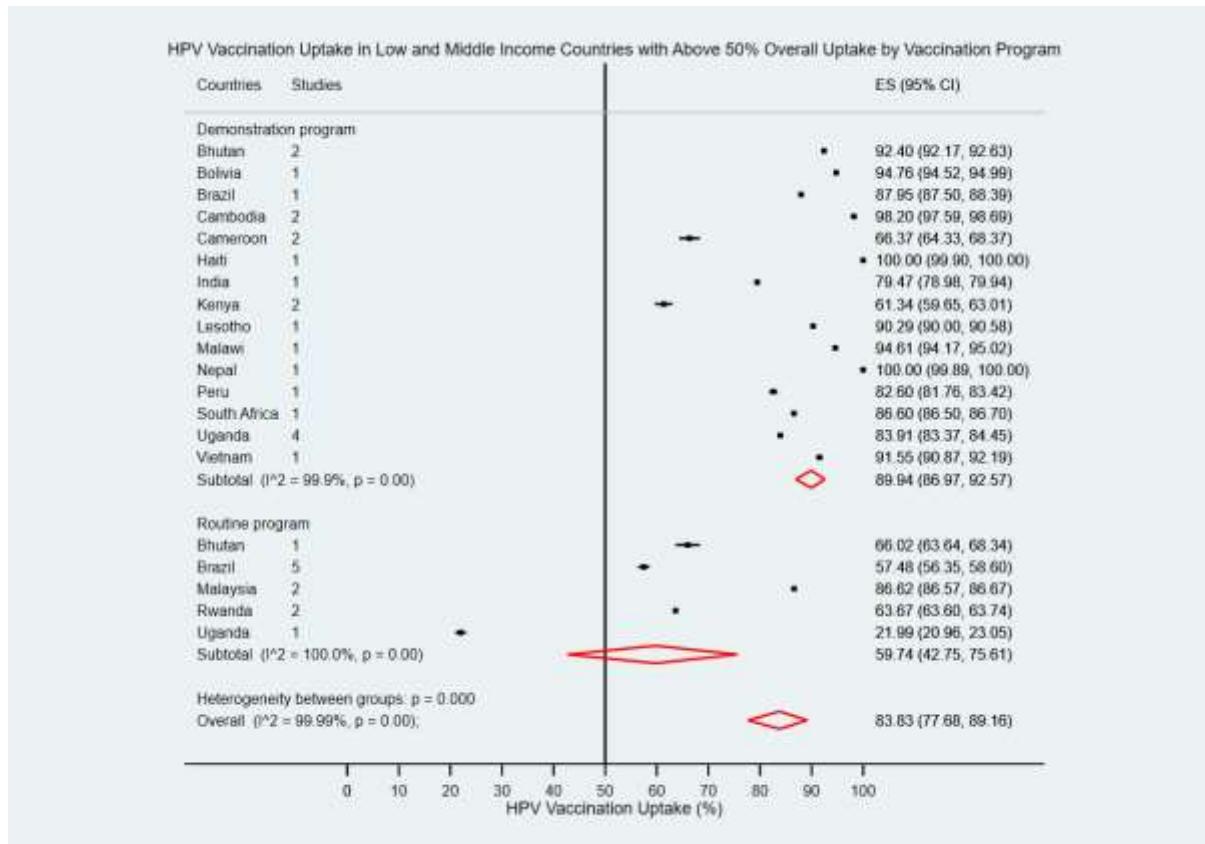
**Supplementary Figure 11.** HPV vaccination uptake by the representativeness of the sample (national or regional) in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020



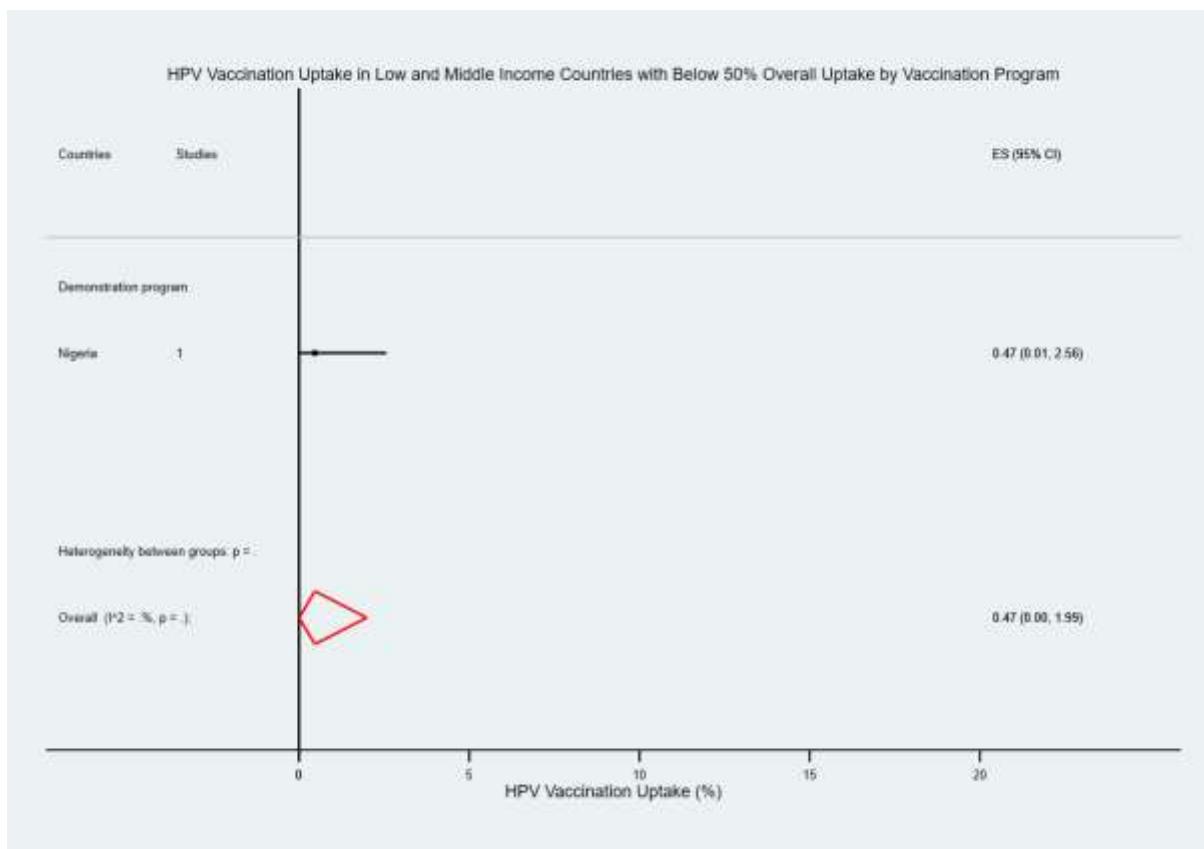
**Supplementary Figure 12.** HPV vaccination uptake by the representativeness of the sample (national or regional) in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020



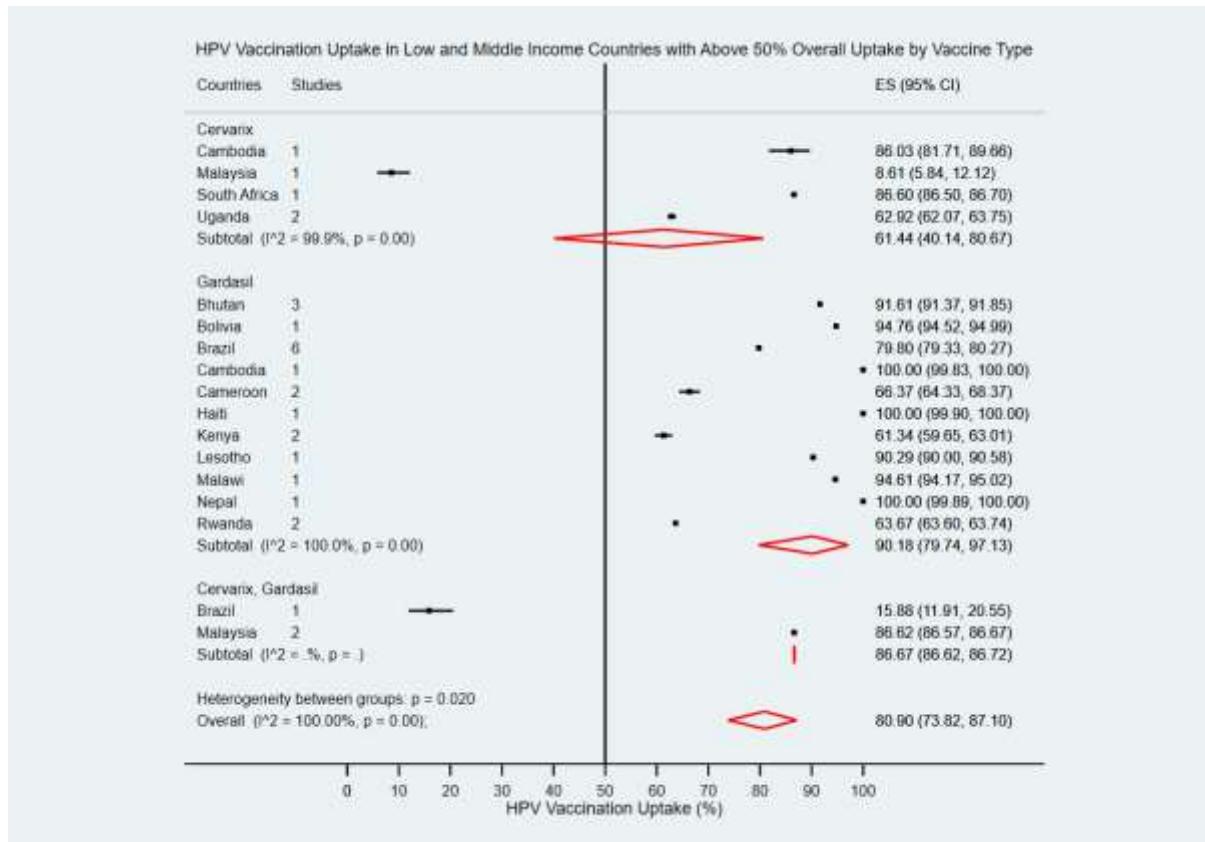
**Supplementary Figure 13.** HPV vaccination uptake by demonstration/pilot projects vs routine national immunization programmes in Low- and Middle-income Countries with overall high uptake (>50%), 2008–2020



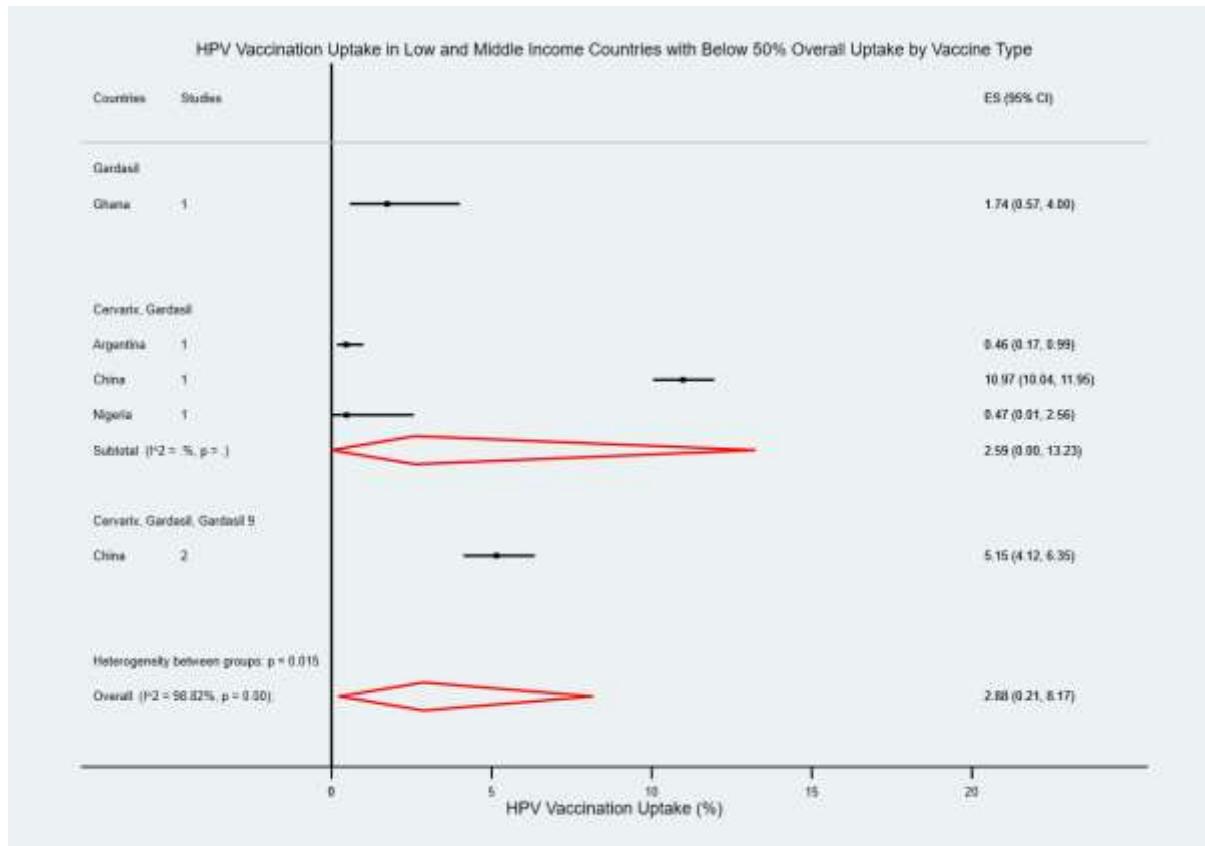
**Supplementary Figure 14.** HPV vaccination uptake by demonstration/pilot projects vs routine national immunization programmes in Low- and Middle-income Countries with overall low uptake (<50%), 2008–2020



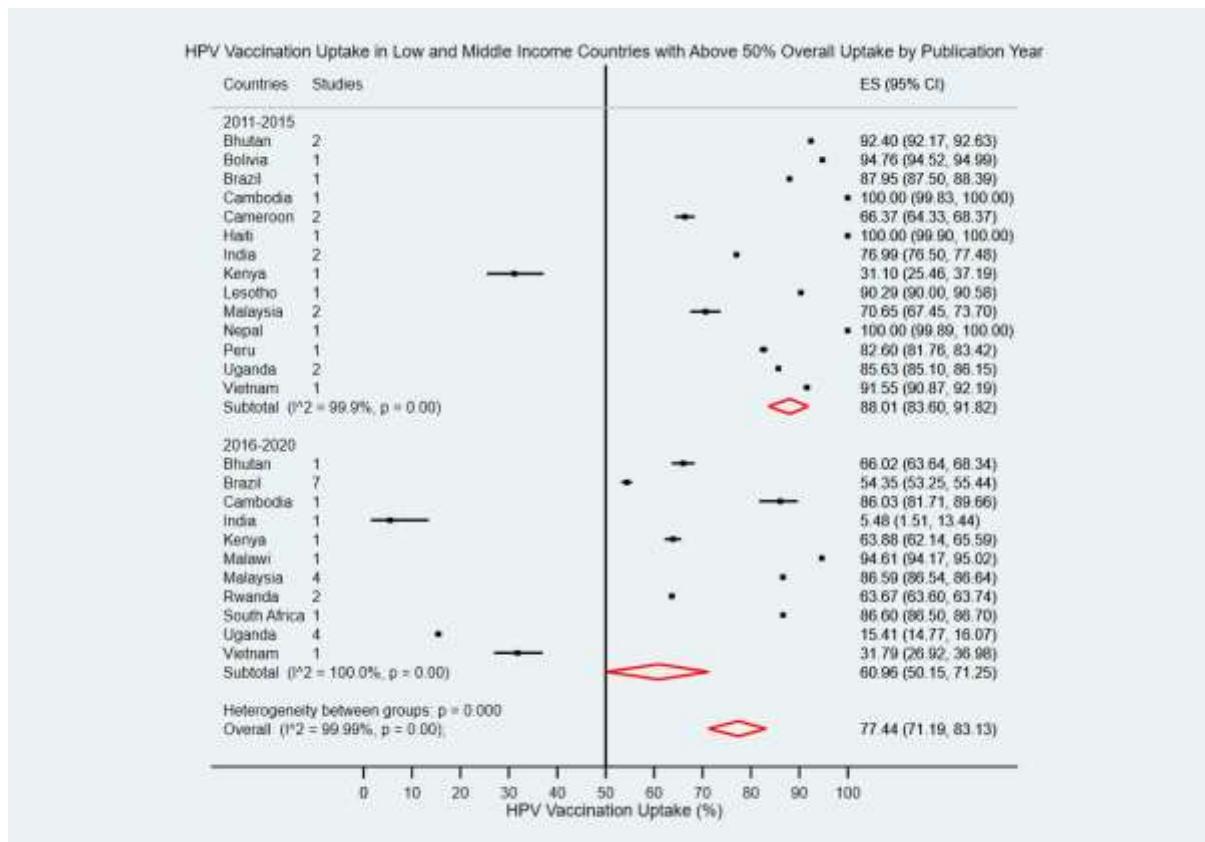
**Supplementary Figure 15.** HPV vaccination uptake by type of vaccines used (2vHPV Cervarix, 4vHPV Gardasil, 9vHPV Gardasil-9) in Low- and Middle-income Countries with high uptake ( $\geq 50\%$ ), 2008–2020



**Supplementary Figure 16.** HPV vaccination uptake by type of vaccines used (2vHPV Cervarix, 4vHPV Gardasil, 9vHPV Gardasil-9) in Low- and Middle-income Countries with low uptake (<50%), 2008–2020



**Supplementary Figure 17.** HPV vaccination uptake in Low- and Middle-income Countries with high uptake ( $\geq 50\%$ ) based on the years of publication of studies, 2008–2020



**Supplementary Figure 18.** HPV vaccination uptake in Low- and Middle-income Countries with low uptake (<50%) based on the years of publication of studies, 2008–2020

